# COMMONWEALTH OF VIRGINIA Department of Environmental Quality Tidewater Regional Office

#### STATEMENT OF LEGAL AND FACTUAL BASIS

Perdue Farms Incorporated Accomac, Virginia Permit No. TRO40483

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Perdue Farms Incorporated has applied for a Title V Operating Permit renewal for its Accomac, Virginia facility. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit		Contact: Date:
	Linda K. Lightfoot (757) 518-2005	
Air	Permit	Manager: Date:
	Jane A. Workman	
Deputy Director:	Harold J. Winer	Date:

#### **FACILITY INFORMATION**

Permittee
Perdue Farms Incorporated
22520 Lankford Highway, Route 13 South
Accomac, Virginia 23301

Facility
Perdue Farms Incorporated
22520 Lankford Highway, Route 13 South
Accomac, Virginia 23301

County-Plant Identification Number: 51-001-00010

#### **SOURCE DESCRIPTION**

NAICS Code: 311999 – miscellaneous food manufacturing (poultry slaughtering and processing)

NAICS Code: 311613 – rendering and meat byproduct processing

Perdue Farms Incorporated is a regulated source of air emissions primarily due to the emissions of Sulfur Dioxide (SO<sub>2</sub>) and Nitrogen Oxides (NO<sub>x</sub>). There is a New Source Review/New Source Performance Standards permit in effect for Perdue Farms dated March 15, 2005.

Maryland is an affected state.

#### **COMPLIANCE STATUS**

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any federal applicable requirements at this time.

# **EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION**

The emissions units at this facility consist of the following :

	1						
Emission Unit ld.	Stack ld.	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ld.	Pollutant Controlled	Applicable Permit Date
POULTRY	PROCESSIN	NG PLANT					
ES1	EP1	Cleaver Brooks Boiler CB600, #6 fuel oil- fired, manufactured before 1971	29 million Btu/hr				
ES2	EP2	Cleaver Brooks Boiler CB600, #6 fuel oil- fired, manufactured before 1971	29 million Btu/hr				
ES3	EP3	Feather Singer					03/15/2005
ES4	EP4	Feather Singer					03/15-2005
ES5	EP5	Ammonia Refrigeration System; compressor room air exhaust					
WASTEWA	WASTEWATER TREATMENT PLANT						
ES6	EP6	Bulk storage silo for dry lime					
BY PRODUCTS PROTEIN CONVERSION PLANT							
ES7	EP7	Cleaver Brooks Boiler DL-68, #6 fuel oil-fired, manufactured before 1974	65 million Btu/hr				03/15/2005
ES9	EP9	Cleaver Brooks Boiler CB 800, #2 fuel oil/poultry fat-fired, manufactured in 1997	33.7 million Btu/hr				03/15/2005

Emission Unit Id.	Stack Id.	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ld.	Pollutant Controlled	Applicable Permit Date
ES10	EP10	Cleaver Brooks Boiler CB 800, #2 fuel oil/poultry fat-fired, manufactured in 1997	33.7 million Btu/hr				03/15/2005
ES8	EP8	Cleaver Brooks Boiler CB 750, #2 fuel oil/poultry fat-fired, manufactured in 1981	31.6 million Btu/hr				03/15/2005
ES11	ES11A	Protein Plant – house air		Packed tower	CD11A		03/15/2005
ES11	ES11B	Protein Plant – house air		Packed tower	CD11B		03/15/2005
ES12	EP12	Protein Plant – production equipment		DFS system	CD12		03/15/2005
GENERAL	GENERAL						4
ES13	EP13	Diesel Generator	2,593 hp; 1,825 KW				03/15/2005

<sup>\*</sup>The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

# **EMISSIONS INVENTORY**

A copy of the 2004 emission inventory generated from CEDS is attached. Emissions are summarized in the following tables.

2004 Criteria Pollutant Emission in Tons/Year						
	VOC	СО	SO <sub>2</sub>	PM <sub>10</sub>	PM	NO <sub>x</sub>
Total	0.41	8.20	236.96	1.21	1.21	69.05

# EMISSION UNIT APPLICABLE REQUIREMENTS – Boiler Requirements (existing sources) - Emission Units ES1 and ES2

#### Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-20	Compliance for Existing Sources
9 VAC 5-40-80	Existing Source Standard for Visible Emissions
9 VAC 5-40-900	Existing Source Standard for Particulate Matter
9 VAC 5-40-930	Existing Source Standard for Sulfur Dioxide

#### Monitoring

The permit includes a requirement for weekly visual evaluations of each stack for opacity. If any opacity is indicated, the opacity condition will be corrected, or an EPA Method 9 visible emissions evaluation will be performed.

No periodic monitoring for Particulate Matter is required in the permit. The following demonstration is provided to show that there is not a great likelihood that the Particulate Matter emission limits will be exceeded:

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AP42 Emission Factors: PM = 8.34[1.12(S) + 0.37] = [9.34(S) + 3.09] lb/1000 gal SO2 = 157S lb/1000 gal, where S = weight percent of sulfur in the fuel
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Heating Value of #6 fuel = 150,000 Btu/gal
Weight percent of sulfur = 2.5
Emission Unit ES1 = 29 mmBtu/hr
Emission Unit ES2 = 29 mmBtu/hr
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Particulate Matter Emissions from ES1 and ES2, each: (29 mmBtu/hr / 150,000 Btu/gal) = 193.3 gal/hr

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PM = [9.34(2.5) + 3.09] lb / 1000 gal x 193.3 gal/hr = 5.1 lbs/hr PM
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Title V permitted rate = 7.8 lbs/hr PM

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Sulfur Dioxide Emissions from ES1 and ES2, each:
SO2 = [(157)(2.5) lb / 1000 gal] x 193.3 gal/hr = 75.9 lbs/hr SO2
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Title V permitted rate = 76.6 lbs/hr SO2

#### Recordkeeping

The permit includes recordkeeping requirements for fuel types and throughputs, and records of visual evaluations, visible emissions evaluations, and corrective actions taken.

### Reporting

There are no specific reporting requirements for these units.

#### **Testing**

The permit requires construction of the facility in such a manner so as to allow for emissions testing at any time using appropriate methods.

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The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

# **Streamlined Requirements**

The permit does not include any streamlined requirements.

# EMISSION UNIT APPLICABLE REQUIREMENTS – Boiler and Generator Requirements – Emission Units ES7, ES8, ES9, ES10, and ES13

#### Limitations

Following are limitations from the existing NSR/NSPS permit issued March 15, 2005:

NSR Condition 3: generator operating hours

NSR Conditions 4 and 5:

NSR Condition 6:

NSR Condition 7:

NSR Condition 7:

NSR Conditions 8, 9, 10, and 11:

NSR Condition 12:

NSR Conditions 13, 14, 15, and 16:

fuel requirements

fuel requirement

NSR Condition 17: operating standards

NSR Condition 19: operating and training procedures
NSR Condition 30: violation of ambient air quality standard
NSR Condition 31: maintenance/operating procedures

NSR Condition 34: registration/update

The following Code of Federal Regulations has been determined to be applicable:

40 CFR Part 60 Subpart Dc Standards of Performance for Small Industrial-

Commercial-Institutional Steam Generating Units

#### **Continuing Compliance Determination**

The permit includes requirements for additional performance tests and visible emissions evaluations, as deemed necessary by DEQ, to demonstrate compliance with the emission limits in the permit.

### **Recordkeeping and Reporting**

Following are limitations from the existing NSR/NSPS permit issued March 15, 2005:

NSR Conditions 19 and 20: on-site records NSR Condition 23 and 40 CFR 60.48c(d) semi-annual reports

#### **Testing**

The permit requires construction of the facility in such a manner so as to allow for emissions testing at any time using appropriate methods.

The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

# **Streamlined Requirements**

The permit does not include any streamlined requirements.

# EMISSION UNIT APPLICABLE REQUIREMENTS – Bulk Storage Silo and Protein Plant Requirements – Emission Units ES6, ES11, and ES12

#### Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-50-20	Compliance for New and Modified Sources
9 VAC 5-50-80	New and Modified Source Standard for Visible Emissions
9 VAC 5-40-260	Existing Source Standard for Particulate Matter

#### Monitoring

The NSR permit dated September 5, 1974 (original NSR permit for the rendering plant) did not include any specific monitoring requirements. Monitoring for opacity is required in the Title V operating permit. The source will be required to perform weekly visual evaluations of each stack. If any opacity is indicated, the condition will be corrected, or a Method 9 visible emissions evaluation will be performed.

In addition, the source will be required to determine, either annually or whenever the process weight rate changes, whichever occurs first, compliance with the process weight-rate standard (9 VAC 5-40-260).

### Recordkeeping

The permit includes requirements for maintaining records of all emission data and operating parameters necessary to demonstrate compliance with the permit. These records include the initial process weight rate demonstration and subsequent demonstrations, and records of visual evaluations, visible emissions evaluations and any corrective action necessary.

#### Testing

The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

#### **Streamlined Requirements**

There are no streamlined requirements for this unit.

### **EMISSION UNIT APPLICABLE REQUIREMENTS – Facility-Wide Conditions**

#### Limitations

The following Virginia Administrative Codes have specific requirements that have been determined to be applicable:

9 VAC 5-50-20 - Compliance for New and Modified Sources

9 VAC 5-40-900 - Existing Source Standard for Particulate Matter

9 VAC 5-40-930 - Existing Source Standard for Sulfur Dioxide

#### Monitoring

The permittee is required to perform periodic visual evaluations. If any opacity is indicated, the condition will be corrected, or a Method 9 visible emissions evaluation will be performed.

#### **Testing**

The permit requires construction of the facility in such a manner so as to allow for emissions testing at any time using appropriate methods.

The permit does not require source tests. A table of test methods has been included in the permit if testing to determine compliance is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

# **Streamlined Requirements**

The permit does not include any streamlined requirements.

#### **GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

#### **Comments on General Conditions**

# **B.** Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement NO. 3-2001".

This general condition cite(s) the Article(s) that follow(s):

Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

9 VAC 5-80-80. Application

9 VAC 5-80-140. Permit Shield

9 VAC 5-80-150. Action on Permit Applications

#### F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

#### J. Permit Modification

This general condition cites the sections that follow:

- 9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources
- 9 VAC 5-80-190. Changes to Permits.
- 9 VAC 5-80-260. Enforcement.
- 9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources
- 9 VAC 5-80-1790. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
- 9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

# **U.** Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

# Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

#### STATE-ONLY APPLICABLE REQUIREMENTS

No State-Only applicable requirements have been identified.

#### **FUTURE APPLICABLE REQUIREMENTS**

No future applicable requirements have been identified.

#### **INAPPLICABLE REQUIREMENTS**

No specific inapplicable requirements have been identified by the source.

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A.4 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

#### **COMPLIANCE PLAN**

There is no compliance plan associated with this permit.

#### **INSIGNIFICANT EMISSION UNITS**

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
Poultry Feather Singers (lpg consumption)	9 VAC 5-80-720 C.2.a.	NO <sub>x</sub>	4.4 million Btu/hr

#### **CONFIDENTIAL INFORMATION**

The source has not identified any information as confidential.

#### **PUBLIC PARTICIPATION**

The proposed permit will be placed on public notice in the <u>Eastern Shore News</u> and the <u>Eastern Shore Post</u> from Wednesday, December 21, 2005 to Friday, January 20, 2006.